

# REFERENCE VOLTAGE GENERATING CIRCUIT AND INTERNAL VOLTAGE GENERATING CIRCUIT FOR CONTROLLING INTERNAL VOLTAGE LEVEL

## ABSTRACT OF THE DISCLOSURE

5            Provided are a reference voltage generating circuit and an internal voltage  
generating circuit for controlling an internal voltage level, where the reference voltage  
generating circuit includes a distributing unit, a clamping control unit, and a control unit;  
the distributing unit has a voltage level lower than that of an external power supply  
voltage in response to the external power supply voltage, and outputs via an output  
10    terminal a reference voltage which varies according to an operating mode; the clamping  
control unit is connected between the output terminal and a ground voltage, and clamps  
the voltage level of the reference voltage at a constant level in response to a control  
voltage having a voltage level which is lower than that of the reference voltage; the  
control unit increases or decreases the voltage level of the reference voltage in  
15    response to first and second operating mode signals; the control unit includes a first  
control transistor and a second control transistor; and the reference voltage generating  
circuit controls a reference voltage level according to an operating mode of the  
semiconductor memory device such that the operating characteristics of the  
semiconductor memory device can be improved in some operating modes and power  
20    dissipation can be minimized in other operating modes.